

## HIV Monoclonal Antibodies

**Table 11 gp41**

MAb	ID	Location	WEAU	Sequence	Neutralizing	Immunogen	Species(Isotype)
506	5F3	gp41(526-543 BH10)	gp41(15-33)	AAGSTMGAASMTLTV-QARQ	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
				<b>Donor:</b> H. Katinger, Inst. Appl. Microbiol., Vienna, Austria			
				<b>References:</b> [Buchacher94]			
				<b>NOTES:</b>			
				• 5F3: Human MAb generated by electrofusion of PBLs from HIV-1+ volunteers with CB-F7 cells [Buchacher94]			
507	25C2	gp41(526-543 BH10)	gp41(15-33)	AAGSTMGAASMTLTV-QARQ	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
				<b>Donor:</b> H. Katinger, Inst. Appl. Microbiol., Vienna, Austria and Viral Testing Systems, Houston, TX			
				<b>References:</b> [Buchacher92, Buchacher94, Sattentau95]			
				<b>NOTES:</b>			
				• 25C2: Human MAb generated by electrofusion of PBLs from HIV-1+ volunteers with CB-F7 cells – binds oligomeric and monomeric gp41, and gp160 [Buchacher94]			
				• 25C2: Called IAM 41-25C2 – Binding domain overlaps sites that are critical for gp120-gp41 association gStM – binding is enhanced by sCD4 – binding region defined as: gp41(21-38 BH10) [Sattentau95]			
508	24G3	gp41(526-543 BH10)	gp41(15-33)	AAGSTMGAASMTLTV-QARQ	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
				<b>Donor:</b> H. Katinger, Inst. Appl. Microbiol., Vienna, Austria			
				<b>References:</b> [Buchacher92, Buchacher94]			
				<b>NOTES:</b>			
				• 24G3: Human MAb generated by electrofusion of PBLs from HIV-1+ volunteers with CB-F7 cells [Buchacher94]			
509	1A1	gp41(526-543 BH10)	gp41(15-33)	AAGSTMGAASMTLTV-QARQ	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
				<b>Donor:</b> H. Katinger, Inst. Appl. Microbiol., Vienna, Austria			
				<b>References:</b> [Buchacher94]			
				<b>NOTES:</b>			
				• 1A1: Human MAb generated using EBV transformation of PBLs from HIV-1+ volunteers [Buchacher94]			
510	α(566-586)	gp41(566-586 BRU)	gp41(51-71)	AQQHLLQLTVWGIKQLQARIL	?	HIV-1 infection	human
				<b>References:</b> [Poumbourios92]			
511	PC5009	gp41(577-596 BRU)	gp41(62-81)	GIKQLQARILAVERY-LKDQQ	?	rgp160	murine
				<b>References:</b> [Poumbourios92]			
				<b>NOTES:</b>			
				• PC5009: Recognized only monomeric gp41 [Poumbourios92]			

## HIV Monoclonal Antibodies

MAb ID	Location	WEAU	Sequence	Neutralizing Immunogen	Species(Isotype)
512 polyclonal $\alpha$ (577-596)	gp41(577-596 BRU)	gp41(62-81)	GIKQLQARILAVERY-LKDQQ	?	HIV-1 infection human plasma
<b>References:</b> [Poumbourios92]					
<b>NOTES:</b>					
• $\alpha$ (577-596): Affinity purified from HIV-1+ plasma – preferentially bind oligomer [Poumbourios92]					
513 polyclonal	gp41(583-604)	gp41(69-89)	RILAVERYLKDQQQLL-GIWGCS	N	desialylated HIV-1 rabbit sera gp160
<b>References:</b> [Benjouad et al.(1993)]					
<b>NOTES:</b>					
• polyclonal: MAbs raised against desialylated HIV-1 gp160 cross-react with HIV-2 gp140 due to immunodominant conserved epitope in gp41 [Benjouad et al.(1993)]					
514 polyclonal	gp41(584-602)	gp41(70-87)	ILAVERYLKDQQQLLG-IWG	N	HIV-1 infection human sera
<b>References:</b> [Petrov et al.(1990)]					
<b>NOTES:</b>					
• polyclonal: Immunodominant and broadly reactive peptide [Petrov et al.(1990)]					
515 V10-9	gp41(586-620 IIIB)	gp41(70-103)	ILAVERYLKDQQQLLG-IWGCSGKLICTTAVP-WNAS	N	HIV-1 infection human(IgG <sub>1</sub> )
<b>References:</b> [Robinson Jr. et al.(1990a), Robinson Jr. et al.(1990b)]					
<b>NOTES:</b>					
• V10-9: Antibody dependent enhancement (ADE) of HIV-1 IIIB infectivity, synergistically enhanced by MAb 120-16 [Robinson Jr. et al.(1990a)]					
• V10-9: Peptide 586-620 blocks complement mediated ADE [Robinson Jr. et al.(1990b)]					
516 86	gp41(586-620 IIIB)	gp41(69-103)	RILAVERYLKDQQQLL-GIWGCSGKLICTTAV-PWNAS	N	HIV-1 infection human(IgG <sub>1</sub> )
<b>Donor:</b> Evan Hersh and Yoh-Ichi Matsumoto					
<b>References:</b> [Sugano et al.(1988), Robinson Jr. et al.(1990a), Robinson Jr. et al.(1990b), Pincus et al.(1991), Moran et al.(1993)]					
<b>NOTES:</b>					
• 86: Reacts with gp41 and also reacted weakly with gp120 [Sugano et al.(1988)]					
• 86: Antibody dependent enhancement (ADE) of HIV-1 IIIB infectivity in the presence of complement [Robinson Jr. et al.(1990a)]					
• 86: Peptide 586-620 blocks complement mediated ADE [Robinson Jr. et al.(1990b)]					
• 86: Poor immunotoxin activity when coupled to RAC – peptide binding stated to be aa 579-603 [Pincus et al.(1991)]					
• 86: Heavy ( $V_H$ I) and light ( $V_{\kappa}$ I) chain sequenced – enhancing activity – similar germline sequence to MAb S1-1, but very different activity [Moran et al.(1993)]					
• 86: NIH AIDS Research and Reference Reagent Program: 380					
517 polyclonal	gp41(74-94 ?)	gp41	ERYLKDQQLGIWGCS-GKLIC	?	HIV-1 infection human sera
<b>References:</b> [Shafferman et al.(1989)]					
<b>NOTES:</b>					
• polyclonal: Immunogenic domain useful for diagnostics [Shafferman et al.(1989)]					

## HIV Monoclonal Antibodies

MAb ID	Location	WEAU	Sequence	Neutralizing	Immunogen	Species(Isotype)
518	41-6	gp41(598-609)	gp41(88-94)	CSGKLIC	?	peptide LGLI-WGCSGKLIC (aa 598-609) murine(IgG <sub>2b</sub> )
<b>References:</b> [Oldstone et al.(1991)]						
<b>NOTES:</b>						
	• 41-6: Poor cross-reactivity with HIV-2 peptide CAFRQVC – slightly more reactive with LGLIWGCSGKLIC and HIV-2 form NSWGCAFRQVC – disulfied bond between cysteines required [Oldstone et al.(1991)]					
519	4	gp41(598-609)	gp41(88-94)	CSGKLIC	?	peptide LGLI-WGCSGKLIC (aa 598-609) murine(IgG <sub>2b</sub> )
<b>References:</b> [Oldstone et al.(1991)]						
<b>NOTES:</b>						
	• 4: Poor cross-reactivity with HIV-2 peptide CAFRQVC – slightly more reactive with longer HIV-2 peptide NSWGCAFRQVC [Oldstone et al.(1991)]					
520	75	gp41(598-609)	gp41(88-94)	CSGKLIC	?	peptide LGLI-WGCSGKLIC (aa 598-609) rat(IgG)
<b>References:</b> [Oldstone et al.(1991)]						
<b>NOTES:</b>						
	• 75: Poor cross-reactivity with HIV-2 peptide CAFRQVC – more reactive with longer HIV-2 peptide NSWGCAFRQVC [Oldstone et al.(1991)]					
521	68.1	gp41(598-609)	gp41(88-94)	CSGKLIC	?	peptide LGLI-WGCSGKLIC (aa 598-609) murine(IgM)
<b>References:</b> [Oldstone et al.(1991)]						
<b>NOTES:</b>						
	• 68.1: Cross-reactive with HIV-2 peptide CAFRQVC – more reactive with longer HIV-1 peptide LGLIWGCSGKLIC and HIV-2 peptide NSWGCAFRQVC [Oldstone et al.(1991)]					
522	68.11	gp41(598-609)	gp41(88-94)	CSGKLIC	?	peptide LGLI-WGCSGKLIC (aa 598-609) murine(IgM)
<b>References:</b> [Oldstone et al.(1991)]						
<b>NOTES:</b>						
	• 68.11: Cross-reactive with HIV-2 peptide CAFRQVC – more reactive with longer HIV-1 peptide LGLIWGCSGKLIC and HIV-2 peptide NSWGCAFRQVC [Oldstone et al.(1991)]					
523	115.8	gp41(598-609)	gp41(83-94)	LGLIWGCSGKLIC	?	peptide LGLI-WGCSGKLIC (aa 598-609) murine(IgM)
<b>References:</b> [Oldstone et al.(1991)]						
<b>NOTES:</b>						
	• 115.8: Poor reactivity with CSGKLIC – reacts well with longer HIV-2 peptide NSWGCAFRQVC as well as CAFRQVC – disulfied bond between cysteines required [Oldstone et al.(1991)]					

## HIV Monoclonal Antibodies

<b>MAb ID</b>	<b>Location</b>	<b>WEAU</b>	<b>Sequence</b>	<b>Neutralizing</b>	<b>Immunogen</b>	<b>Species(Isotype)</b>
524 M-22	gp41(598-609)	gp41(83-94)	LGIWGCSGKLIC	?	HIV-1 gp41 peptide (aa 598-609)	murine(IgG <sub>2b</sub> )
<b>References:</b> [Yamada et al.(1991)]						
<b>NOTES:</b>						
• M-22: Strongest reaction of 12 anti-HIV-1 gp41 MAbs to a cellular43-kDa protein found in rat and human astrocytes [Yamada et al.(1991)]						
525 M-24	gp41(598-609)	gp41(83-94)	LGIWGCSGKLIC	?	HIV-1 gp41 peptide (aa 598-609)	murine(IgG <sub>1</sub> )
<b>References:</b> [Yamada et al.(1991)]						
<b>NOTES:</b>						
• M-24: Strongly reacted with a cellular 43-kDa protein found in rat and human astrocytes as well as with gp41 [Yamada et al.(1991)]						
526 M-28	gp41(598-609)	gp41(83-94)	LGIWGCSGKLIC	?	HIV-1 gp41 peptide (aa 598-609)	murine(IgG <sub>1</sub> )
<b>References:</b> [Yamada et al.(1991)]						
<b>NOTES:</b>						
• M-28: Strongly reacted with a cellular 43-kDa protein found in rat and human astrocytes as well as with gp41 [Yamada et al.(1991)]						
527 M-2	gp41(598-609)	gp41(83-94)	LGIWGCSGKLIC	?	HIV-1 gp41 peptide (aa 598-609)	murine(IgG <sub>2b</sub> )
<b>References:</b> [Yamada et al.(1991)]						
<b>NOTES:</b>						
• M-2: Strongly reacted with a cellular 43-kDa protein found in rat and human astrocytes as well as with gp41 [Yamada et al.(1991)]						
528 M-11	gp41(598-609)	gp41(83-94)	LGIWGCSGKLIC	?	HIV-1 gp41 peptide (aa 598-609)	murine(IgG <sub>1</sub> )
<b>References:</b> [Yamada et al.(1991)]						
<b>NOTES:</b>						
• M-11: Strongly reacted with a cellular 43-kDa protein found in rat and human astrocytes as well as with gp41 [Yamada et al.(1991)]						
529 M-13	gp41(598-609)	gp41(83-94)	LGIWGCSGKLIC	?	HIV-1 gp41 peptide (aa 598-609)	murine(IgG <sub>2b</sub> )
<b>References:</b> [Yamada et al.(1991)]						
<b>NOTES:</b>						
• M-13: Reacted with a cellular 43-kDa protein found						
530 M-25	gp41(598-609)	gp41(83-94)	LGIWGCSGKLIC	?	HIV-1 gp41 peptide (aa 598-609)	murine(IgG <sub>1</sub> )
<b>References:</b> [Yamada et al.(1991)]						
<b>NOTES:</b>						
• M-25: Reacted with a cellular 43-kDa protein found in rat and human astrocytes as well as with gp41 [Yamada et al.(1991)]						
531 M-1	gp41(598-609)	gp41(83-94)	LGIWGCSGKLIC	?	HIV-1 gp41 peptide (aa 598-609)	murine(IgG <sub>1 or 2b</sub> )
<b>References:</b> [Yamada et al.(1991)]						
<b>NOTES:</b>						
• M-1: Unlike M-22, did not react to 43-kDa protein found in rat and human astrocytes [Yamada et al.(1991)]						

## HIV Monoclonal Antibodies

MAb ID	Location	WEAU	Sequence	Neutralizing	Immunogen	Species(Isotype)
532 M-4	gp41(598-609)	gp41(83-94)	LGIWGCSGKLIC	?	HIV-1 gp41 peptide (aa 598-609)	murine(IgG <sub>2b</sub> )
<b>References:</b> [Yamada et al.(1991)]						
<b>NOTES:</b>						
	• M-4: Unlike M-22, did not react to 43-kDa protein found in rat and human astrocytes [Yamada et al.(1991)]					
533 M-6	gp41(598-609)	gp41(83-94)	LGIWGCSGKLIC	?	HIV-1 gp41 peptide (aa 598-609)	murine(IgG <sub>2b</sub> )
<b>References:</b> [Yamada et al.(1991)]						
<b>NOTES:</b>						
	• M-6: Unlike M-22, did not react to 43-kDa protein found in rat and human astrocytes [Yamada et al.(1991)]					
534 M-29	gp41(598-609)	gp41(83-94)	LGIWGCSGKLIC	?	HIV-1 gp41 peptide (aa 598-609)	murine(IgG <sub>1</sub> )
<b>References:</b> [Yamada et al.(1991)]						
<b>NOTES:</b>						
	• M-29: Unlike M-22, did not react to 43-kDa protein found in rat and human astrocytes [Yamada et al.(1991)]					
535 M-36	gp41(598-609)	gp41(83-94)	LGIWGCSGKLIC	?	HIV-1 gp41 peptide (aa 598-609)	murine(IgG <sub>1</sub> )
<b>References:</b> [Yamada et al.(1991)]						
<b>NOTES:</b>						
	• M-36: Unlike M-22, did not react to 43-kDa protein found in rat and human astrocytes [Yamada et al.(1991)]					
536 1B8.env	gp41(594-605 HXB2)	gp41(84-94)	GIWGCSGKLIC	N	HIV-1 infection	human(IgG <sub>2λ</sub> )
<b>References:</b> [Banapour et al.(1987)]						
<b>NOTES:</b>						
	• 1B8.env: Highly conserved epitope recognized by the majority of HIV-1 infected people [Banapour et al.(1987)]					
537 polyclonal	gp41(598-609)	gp41(84-91)	GIWGCSGK	?	HIV-1 infection	human
<b>References:</b> [Poumbourios92]						
<b>NOTES:</b>						
	• α(598-609): Affinity purified from HIV-1+ plasma – immunodominant region, binds oligomer and monomer [Poumbourios92]					
538 clone 3	gp41	gp41(87-96)	GCSGKLICTT	L	HIV-1 infection	human(IgG <sub>1</sub> )
<b>References:</b> [Cotropia et al.(1992), Cotropia et al.(1996)]						
<b>NOTES:</b>						
	• clone 3: Core binding domain gcsstkLIC – lack of serological activity to this region correlates with rapid progression in infants ([Broliden et al.(1989)]) [Cotropia et al.(1992)]					
	• clone 3: Inhibits replication of three diverse HIV-1 laboratory strains, as well as an AZT-resistant isolate [Cotropia et al.(1996)]					
539 polyclonal	gp41(601-616)	gp41(84-99)	GIWGCSGKLICTTAV-P	N	HIV-1 infection	human sera
<b>References:</b> [Petrov et al.(1990)]						
<b>NOTES:</b>						
	• polyclonal: Immunodominant and broadly reactive peptide [Petrov et al.(1990)]					

## HIV Monoclonal Antibodies

MAb ID	Location	WEAU	Sequence	Neutralizing	Immunogen	Species(Isotype)
540	41-7 gp41(605-611)	gp41(88-94)	CSGKLIC	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
	<b>References:</b> [Bugge et al.(1990)]					
	<b>NOTES:</b>					
	• 41-7: Sera from 6/6 HIV-1 positive, but no HIV-2 positive, individuals interfered with 41-7 binding [Bugge et al.(1990)]					
541	2A2/26 gp41(584-606 BRU)	gp41(69-91)	RILAVERYLKDQQQLL-GIWGCSK	?	viral gp41	murine(IgG)
	<b>References:</b> [Poumbourios92, Poumbourios et al.(1995)]					
	<b>NOTES:</b>					
	• 2A2/26: Immunodominant region, binds both oligomer and monomer [Poumbourios92]					
	• 2A2/26: Δ 550-561 (Δ LLRAIEAQHQHLL), a region important for oligomer formation diminishes binding, Δ (550-561 +571-581) abrogates binding [Poumbourios et al.(1995)]					
542	98-43 gp41(579-604 HXB2)	gp41(69-94)	RILAVERYLKDQQQLL-GIWGCSGK LIC	N	HIV-1 infection	human(IgG <sub>2κ</sub> )
	<b>References:</b> [Pinter et al.(1989), Gorny89, Tyler90, Xu91]					
	<b>NOTES:</b>					
	• 98-43: Reacts equally well with oligomer and monomer [Pinter et al.(1989)]					
	• 98-43: Poor ADCC (in contrast to MAb 120-16, gp41(644-663)) [Tyler90]					
	• 98-43: 579-604 binds in the immunodominant region [Xu91]					
	• 98-43: NIH AIDS Research and Reference Reagent Program: 1241					
543	181-D gp41(591-597 HXB2)	gp41(81-87)	QLLGIWG	N	HIV-1 infection	human(IgG <sub>2κ</sub> )
	<b>References:</b> [Xu91, Robinson Jr. et al.(1991), Eddleston et al.(1993), Forthal et al.(1995)]					
	<b>NOTES:</b>					
	• 181-D: Fine mapping indicates core is LLGIW [Xu91]					
	• 181-D: No enhancing or neutralization activity [Robinson Jr. et al.(1991)]					
	• 181-D: Called SZ-181.D [Eddleston et al.(1993)]					
	• 181-D: No neutralizing, no ADCC, and no viral enhancing activity [Forthal et al.(1995)]					
544	240-D gp41(592-600 HXB2)	gp41(82-90)	LLGIWGCSG	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
	<b>References:</b> [Xu91, Robinson Jr. et al.(1991), Spear et al.(1993), Binley et al.(1996)]					
	<b>NOTES:</b>					
	• 240-D: Fine mapping indicates core is IWG [Xu91]					
	• 240-D: No neutralizing activity, some enhancing activity [Robinson Jr. et al.(1991)]					
	• 240-D: Did not mediate deposition of complement component C3 on HIV infected cells [Spear et al.(1993)]					
	• 240-D: Binds to a linear epitope located in the Cluster I region – binding of 50-69 and 240-D inhibited by Fabs A1, A4, M8B, M26B, M12B and T2 [Binley et al.(1996)]					
	• 240-D: NIH AIDS Research and Reference Reagent Program: 1242					

## HIV Monoclonal Antibodies

MAb ID	Location	WEAU	Sequence	Neutralizing	Immunogen	Species(Isotype)
545	246-D gp41(579-604 HXB2)	gp41(80-87)	QQLLGIWG	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
	<b>References:</b> [Xu91, Robinson Jr. et al.(1991), Spear et al.(1993), Eddleston et al.(1993), Forthal et al.(1995)]					
	<b>NOTES:</b>					
	<ul style="list-style-type: none"> <li>• 246-D: Fine mapping indicates core is LLGI [Xu91]</li> <li>• 246-D: Did not mediate deposition of complement component C3 on HIV infected cells unless cells were pre-incubated with sCD4 [Spear et al.(1993)]</li> <li>• 246-D: No neutralizing activity, some enhancing activity [Robinson Jr. et al.(1991)]</li> <li>• 246-D: Called SZ-246.D [Eddleston et al.(1993)]</li> <li>• 246-D: No neutralizing activity, both ADCC and viral enhancing activity [Forthal et al.(1995)]</li> <li>• 246-D: NIH AIDS Research and Reference Reagent Program: 1245</li> </ul>					
546	2F11 gp41(HXB2)	gp41(79-90)	DQQLLGIWGCSG	N	HIV-1 infection	human(IgG <sub>1</sub> )
	<b>References:</b> [Eaton et al.(1994)]					
	<b>NOTES:</b>					
	<ul style="list-style-type: none"> <li>• 2F11: Enhances infectivity even in the absence of complement – doesn't mediate ADCC or neutralize virus [Eaton et al.(1994)]</li> </ul>					
547	1H5 gp41(579-613 BH10)	gp41(68-102)	ARILAVERYLKDQQL-LGIWGCSGKLICTTA-VPWNA	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
	<b>References:</b> [Buchacher92, Buchacher94]					
	<b>NOTES:</b>					
	<ul style="list-style-type: none"> <li>• 1H5: Generated by electrofusion of PBLs from HIV-1 positive volunteers with CB-F7 cells [Buchacher94]</li> </ul>					
548	1F11 gp41(579-613 BH10)	gp41(68-102)	ARILAVERYLKDQQL-LGIWGCSGKLICTTA-VPWNA	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
	<b>Donor:</b> H. Katinger, Inst. Appl. Microbiol., Vienna, Austria					
	<b>References:</b> [Buchacher92, Buchacher94]					
	<b>NOTES:</b>					
	<ul style="list-style-type: none"> <li>• 1F11: Generated by electrofusion of PBLs from HIV-1 positive volunteers with CB-F7 cells [Buchacher94]</li> </ul>					
549	4D4 gp41(579-613 BH10)	gp41(68-102)	ARILAVERYLKDQQL-LGIWGCSGKLICTTA-VPWNA	N	HIV-1 infection	human(IgG <sub>1λ</sub> )
	<b>Donor:</b> H. Katinger, Inst. Appl. Microbiol., Vienna, Austria and Viral Testing Systems, Houston, TX					
	<b>References:</b> [Buchacher92, Buchacher94, Chen et al.(1994), Sattentau95]					
	<b>NOTES:</b>					
	<ul style="list-style-type: none"> <li>• 4D4: Generated by electrofusion of PBLs from HIV-1 positive volunteers with CB-F7 cells [Buchacher94]</li> </ul>					
550	3D9 gp41(579-613 BH10)	gp41(68-102)	ARILAVERYLKDQQL-LGIWGCSGKLICTTA-VPWNA	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
	<b>Donor:</b> H. Katinger, Inst. Appl. Microbiol., Vienna, Austria					
	<b>References:</b> [Buchacher92, Buchacher94]					
	<b>NOTES:</b>					
	<ul style="list-style-type: none"> <li>• 3D9: Generated by electrofusion of PBLs from HIV-1 positive volunteers with CB-F7 cells [Buchacher94]</li> </ul>					

## HIV Monoclonal Antibodies

MAb ID	Location	WEAU	Sequence	Neutralizing	Immunogen	Species(Isotype)
551 4G2	gp41(579-613 BH10)	gp41(68-102)	ARILAVERYLKDQQL-LGIWGCSGKLICTTA-VPWNA	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
					<b>Donor:</b> H. Katinger, Inst. Appl. Microbiol., Vienna, Austria <b>References:</b> [Buchacher92, Buchacher94] <b>NOTES:</b> <ul style="list-style-type: none"><li>• 4G2: Generated by electrofusion of PBLs from HIV-1 positive volunteers with CB-F7 cells [Buchacher94]</li></ul>	
552 4B3	gp41(579-613 BH10)	gp41(68-102)	ARILAVERYLKDQQL-LGIWGCSGKLICTTA-VPWNA	N	HIV-1 infection	human(IgG <sub>1λ</sub> )
					<b>Donor:</b> H. Katinger, Inst. Appl. Microbiol., Vienna, Austria <b>References:</b> [Buchacher92, Buchacher94, Chen et al.(1994)] <b>NOTES:</b> <ul style="list-style-type: none"><li>• 4B3: Generated by electrofusion of PBLs from HIV-1 positive volunteers with CB-F7 cells [Buchacher94]</li></ul>	
553 50-69	gp41(579-603 BH10)	gp41(69-93)	RILAVERYLKDQQLL-GIWGCSGKLI	N	HIV-1 infection	human(IgG <sub>2κ</sub> )
					<b>Donor:</b> Susan Zolla-Pazner, NYU, NY <b>References:</b> [Till et al.(1989), Pinter et al.(1989), Gorny89, Xu91, Robinson Jr. et al.(1991), Sattentau91, Eddleston et al.(1993), Spear et al.(1993), Sattentau95, McDougal96, Poignard et al.(1996a), Binley et al.(1996)] <b>NOTES:</b> <ul style="list-style-type: none"><li>• 50-69: Combined with deglycosylated A chain of ricin is toxic to lines of HIV-infected T cells (H9) and monocytes (U937) [Till et al.(1989)]</li><li>• 50-69: Reacts preferentially with gp160 oligomer, compared to gp41 monomer [Pinter et al.(1989)]</li><li>• 50-69: Kills HIV-infected cells when coupled to deglycosylated ricin A chain [Gorny89]</li><li>• 50-69: The epitope is affected by the conformation conferred by the two cysteines at amino acids 598 and 604 [Xu91]</li><li>• 50-69: Enhances HIV-1 infection <i>in vitro</i> – synergizes with huMAb 120-16 <i>in vitro</i> to enhance HIV-1 infection to level approaching that found in polyclonal anti-HIV serum [Robinson Jr. et al.(1991)]</li><li>• 50-69: Two fold increase in binding to gp120 in the presence of bound sCD4 [Sattentau91]</li><li>• 50-69: Called SZ-50.69 – binds to an epitope within aa 579-613 [Eddleston et al.(1993)]</li><li>• 50-69: Did not mediate deposition of complement component C3 on HIV infected cells unless cells were pre-incubated with sCD4 – complement mediated virolysis of MN and IIIB in the presence of sCD4 [Spear et al.(1993)]</li><li>• 50-69: Preferentially binds oligomer – binding increased after pretreatment of infected cells with sCD4 – binding domain overlaps site that is critical for gp120-gp41 association, avEry [Sattentau95]</li><li>• 50-69: Does not neutralize HIV-1 LAI [McDougal96]</li><li>• 50-69: Prebinding of anti-V3, and CD4i MAbs 48d and 17b, but not anti-V2 neutralizing MAbs, expose the 50-69 epitope [Poignard et al.(1996a)]</li><li>• 50-69: Binds to a linear epitope located in the Cluster I region – binding of 50-69 and 240-D inhibited by Fabs A1, A4, M8B, M26B, M12B and T2 [Binley et al.(1996)]</li><li>• 50-69: NIH AIDS Research and Reference Reagent Program: 531</li></ul>	
554 Fab A1	gp41(584-609 LAI)	gp41(69-98)	RILAVERYLKDQQLL-GIWGCSGKLICTTAV	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
					<b>References:</b> [Binley et al.(1996)] <b>NOTES:</b> <ul style="list-style-type: none"><li>• Fab A1: Binds to Cluster I region – competes with MAbs 240-D and 50-69 – conformation sensitive – variable regions sequenced [Binley et al.(1996)]</li></ul>	

## HIV Monoclonal Antibodies

MAb ID	Location	WEAU	Sequence	Neutralizing	Immunogen	Species(Isotype)
555 Fab A4	gp41(584-609 LAI)	gp41(69-98)	RILAVERYLKDQQQLL-GIWGCSGKLICTTAV	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
<b>References:</b> [Binley et al.(1996)]						
<b>NOTES:</b>						
• Fab A4: Binds to Cluster I region – competes with MAbs 240-D and 50-69 – conformation sensitive – variable regions sequenced [Binley et al.(1996)]						
556 Fab M8B	gp41(584-609 LAI)	gp41(69-98)	RILAVERYLKDQQQLL-GIWGCSGKLICTTAV	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
<b>References:</b> [Binley et al.(1996)]						
<b>NOTES:</b>						
• Fab M8B: Binds to Cluster I region – competes with MAbs 240-D and 50-69 – conformation sensitive – variable regions sequenced [Binley et al.(1996)]						
557 Fab M26B	gp41(584-609 LAI)	gp41(69-98)	RILAVERYLKDQQQLL-GIWGCSGKLICTTAV	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
<b>References:</b> [Binley et al.(1996)]						
<b>NOTES:</b>						
• Fab M26B: Binds to Cluster I region – competes with MAbs 240-D and 50-69 – conformation sensitive – variable regions sequenced [Binley et al.(1996)]						
558 Fab T2	gp41(584-609 LAI)	gp41(69-98)	RILAVERYLKDQQQLL-GIWGCSGKLICTTAV	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
<b>References:</b> [Binley et al.(1996)]						
<b>NOTES:</b>						
• Fab T2: Binds to Cluster I region – competes with MAbs 240-D and 50-69 – conformation sensitive – variable regions sequenced [Binley et al.(1996)]						
559 Fab M12B	gp41(584-609 LAI)	gp41(69-98)	RILAVERYLKDQQQLL-GIWGCSGKLICTTAV	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
<b>References:</b> [Binley et al.(1996)]						
<b>NOTES:</b>						
• Fab M12B: Binds to Cluster I region – competes with MAbs 240-D and 50-69 – conformation sensitive – variable regions sequenced [Binley et al.(1996)]						
560 41-1	gp41(584-609)	gp41(69-98)	RILAVERYLKDQQQLL-GIWGCSGKLICTTAV	?	gp160	murine(IgG <sub>1κ</sub> )
<b>References:</b> [Gosting et al.(1987), Dalgleish et al.(1988), Pincus et al.(1991), Mani et al.(1994)]						
<b>NOTES:</b>						
• 41-1: Broadly reactive [Gosting et al.(1987)]						
• 41-1: This antibody seems to have been named the same as a different MAb to gp41(735-752) [Dalgleish et al.(1988)]						
• 41-1: Efficacious as an immunotoxin when coupled to RAC – gave linear epitope as gp160 579-603 [Pincus et al.(1991)]						
• 41-1: did not require the C-C disulfide bridge and loop formation, can bind simultaneously with 9-11 [Mani et al.(1994)]						
561 9-11	gp41(584-609)	gp41(69-94)	RILAVERYLKDQQQLL-GIWGCSGKLIC	?	gp160	murine(IgG <sub>1</sub> )
<b>References:</b> [Mani et al.(1994)]						
<b>NOTES:</b>						
• 9-11: required the C-C disulfide bridge and loop formation, can bind simultaneously with 41-1 [Mani et al.(1994)]						

## HIV Monoclonal Antibodies

MAb ID	Location	WEAU	Sequence	Neutralizing	Immunogen	Species(Isotype)
562	polyclonal gp41(589-596)	gp41 (72-79)	AVERYLKD	?	HIV-1 infection	human sera
	<b>References:</b> [Klasse et al.(1991)]					
	<b>NOTES:</b>					
	• polyclonal: Substitutions and deletions in peptide 583-599 were systematically studied – alterations in AVERYLKD abrogated the antigenicity of peptides with most of 14 human sera [Klasse et al.(1991)]					
563	polyclonal gp41(583-599)	gp41 (64-82)	LQARILAVERYLKDG-QL	?	HIV-1 infection	human sera
	<b>References:</b> [Klasse et al.(1993b)]					
	<b>NOTES:</b>					
	• polyclonal: 42 HIV-1 positive human sera were tested against WT peptide, and peptide with substitution 589 A to T: 11/42 reacted strongly with WT, weakly with A589T – 31 reacted weakly with parental, even more weakly with substituted [Klasse et al.(1993b)]					
564	9G5A gp41(596-599 IIIB)	gp41 (81-84)	QLLG	?	Anti-idiotype against M38	murine(IgM)
	<b>References:</b> [Lopalco93, Beretta & Dalgleish(1994)]					
	<b>NOTES:</b>					
	• 9G5A: Anti-idiotype to gp120 C terminus (C5 region) MAb M38 [Lopalco93]					
565	3D6 gp41(604-617 BH10)	gp41(89-103)	SGKLICTTAVPWNAS	?	HIV-1 infection	human(IgG <sub>1</sub> <sub>κ</sub> )
	<b>Donor:</b> H. Katinger, Inst. Appl. Microbiol., Vienna, Austria and Viral Testing Systems, Houston, TX					
	<b>References:</b> [He et al.(1992), Chen et al.(1994), Sattentau95]					
	<b>NOTES:</b>					
	• 3D6: Fab fragment crystal structure [He et al.(1992)]					
	• 3D6: This MAb binds to HIV gp41, and to a 43 kd protein found in human T, B and monocyte cell lines, proposed molecular mimicry [Chen et al.(1994)]					
	• 3D6: Called IAM 41-3D6: binding increased after pretreatment of infected cells with sCD4 – binding domain overlaps site that is critical for gp120-gp41 association, ctaV [Sattentau95]					
566	120-16 gp41(644-663 HXB2)	gp41(134-153)	SLIEESQNQQEKNEQ-ELLEL	N	HIV-1 infection	human(IgG <sub>2</sub> <sub>κ</sub> )
	<b>References:</b> [Robinson Jr. et al.(1990a), Tyler90, Xu91, Robinson Jr. et al.(1991), Eddleston et al.(1993), Forthal et al.(1995)]					
	<b>NOTES:</b>					
	• 120-16: Antibody dependent enhancement (ADE) of HIV-1 IIIB infectivity, synergistically enhanced by MAb V10-9 [Robinson Jr. et al.(1990a)]					
	• 120-16: Potent ADCC (in contrast to MAb 98-43, gp41(579-604)) [Tyler90]					
	• 120-16: Less reactive region than Avery region – most Abs involving this region bound conformational epitopes, this was the only linear one [Xu91]					
	• 120-16: Synergizes with huMAb 50-69 in vitro to enhance HIV-1 infection [Robinson Jr. et al.(1991)]					
	• 120-16: Called SZ-120.16 [Eddleston et al.(1993)]					
	• 120-16: No neutralizing activity, both ADCC and viral enhancing activity [Forthal et al.(1995)]					

## HIV Monoclonal Antibodies

MAb ID	Location	WEAU	Sequence	Neutralizing	Immunogen	Species(Isotype)
567 98-6	gp41(644-663 HXB2)	gp41(134-153)	SLIEESQNQKEKNEQ- ELLEL	N	HIV-1 infection	human(IgG <sub>2κ</sub> )
<b>References:</b> [Pinter et al.(1989), Gorny89, Till et al.(1989), Robinson Jr. et al.(1990a), Tyler90, Sattentau91, Robinson Jr. et al.(1991), Xu91, Eddleston et al.(1993), Spear et al.(1993), Tani et al.(1994), Forthal et al.(1995), Sattentau95]						
<b>NOTES:</b>						
<ul style="list-style-type: none"> <li>• 98-6: Reacts preferentially with gp160 oligomer, compared to gp41 monomer [Pinter et al.(1989)]</li> <li>• 98-6: Kills HIV-infected cells when coupled to deglycosylated ricin A chain [Gorny89]</li> <li>• 98-6: Toxic to HIV-infected T cells (H9) and monocytes (U937) when coupled to deglycosylated A chain of ricin [Till et al.(1989)]</li> <li>• 98-6: No neutralizing or enhancing activity for HIV-1 IIIB [Robinson Jr. et al.(1990a)]</li> <li>• 98-6: Serves as target for antibody-dependent cellular cytotoxicity, ADCC [Tyler90]</li> <li>• 98-6: Two fold increase in binding to gp120 in the presence of bound sCD4 [Sattentau91]</li> <li>• 98-6: No neutralizing or enhancing activity [Robinson Jr. et al.(1991)]</li> <li>• 98-6: Appeared to be specific for a conformational or discontinuous epitope [Xu91]</li> <li>• 98-6: Called SZ-98.6 – binds to a conformational domain within aa 644-663 of gp41, and reacts with astrocytes, as do 167-7 and ND-15G1 [Eddleston et al.(1993)]</li> <li>• 98-6: Did not mediate deposition of complement component C3 on HIV infected cells, binding enhanced by sCD4 [Spear et al.(1993)]</li> <li>• 98-6: This MAb was expressed as a surface anti-gp41 monoclonal antibody receptor for gp41 on a CD4-negative B-cell line. Transfected cells could bind HIV envelope, but could not be infected by HIV-1. When CD4 delivered by retroviral constructs was expressed on these cells, they acquired the ability to replicate HIV-1, and sIg/gp41 specifically enhanced viral replication [Tani et al.(1994)]</li> <li>• 98-6: No neutralizing activity, positive ADCC activity, and no viral enhancing activity [Forthal et al.(1995)]</li> <li>• 98-6: Preferentially recognizes oligomeric form of gp41 – enhanced binding to HIV-1 infected cells at 37 degrees relative to 4 degrees – addition of sCD4 enhances binding [Sattentau95]</li> <li>• 98-6: NIH AIDS Research and Reference Reagent Program: 1240</li> </ul>						
568 167-7	gp41(644-663)	gp41(134-153)	SLIEESQNQKEKNEQ- ELLEL	?	HIV-1 infection	human(IgG <sub>2λ</sub> )
<b>References:</b> [Xu91, Eddleston et al.(1993)]						
<b>NOTES:</b>						
<ul style="list-style-type: none"> <li>• 167-7: Specific for a conformational epitope [Xu91]</li> <li>• 167-7: Called SZ-167.7 – binds to a conformational domain within aa 644-663 of gp41, and reacts with astrocytes, as do 98-6 and ND-15G1 [Eddleston et al.(1993)]</li> </ul>						
569 ND-15G1	gp41(644-663 HXB2)	gp41(134-153)	SLIEESQNQKEKNEQ- ELLEL	?	HIV-1 infection	human(IgG <sub>1κ</sub> )
<b>References:</b> [Eddleston et al.(1993)]						
<b>NOTES:</b>						
<ul style="list-style-type: none"> <li>• ND-15G1: Mapped to the conformational epitope within aa 644-663, and reacts with astrocytes, as do 98-6 and 167-7 [Eddleston et al.(1993)]</li> </ul>						
570 167-D	gp41(644-663 HXB2)	gp41(134-153)	SLIEESQNQKEKNEQ- ELLEL	N	HIV-1 infection	human(IgG <sub>1λ</sub> )
<b>References:</b> [Spear et al.(1993), Forthal et al.(1995)]						
<b>NOTES:</b>						
<ul style="list-style-type: none"> <li>• 167-D: Did not mediate deposition of complement component C3 on HIV infected cells – complement mediated virolysis of MN and IIIB in the presence of sCD4 [Spear et al.(1993)]</li> <li>• 167-D: No neutralizing activity, no ADCC activity, and no viral enhancing activity [Forthal et al.(1995)]</li> </ul>						

MAb ID	Location	WEAU	Sequence	Neutralizing	Immunogen	Species(Isotype)
571 2F5	gp41(662-667 BH10)	gp41(152-157)	ELDKWA	L P	HIV-1 infection	human(IgG <sub>3κ</sub> )
	<b>Donor:</b> Viral Testing Systems, Houston, TX, USA, and Waldheim Pharmazeutika, GmbH, Vienna, Austria					
	<b>References:</b> [Buchacher92, Muster93, Allaway et al.(1993), Klasse et al.(1993a), Purtscher94, Laal et al.(1994), Buchacher94, D'Souza94, Conley94a, Thali94, Chen et al.(1994), Muster94, Beretta & Dalgleish(1994), Trkola95a, Sattentau95, Moore & Ho(1995), Neurath95, Kessler95, Poignard et al.(1996b), Sattentau(1996)]					
	<b>NOTES:</b>					
	• 2F5: DKWA defined as the core sequence – highly conserved neutralizing MAb [Buchacher92, Muster93]					
	• 2F5: Synergy with combinations of CD4-based molecules in inhibition of HIV-1 Env mediated cell fusion [Allaway et al.(1993)]					
	• 2F5: Called IAM-41-2F5 – reports MAb to be IgG <sub>1</sub> – the gp41 mutation 582(Ala to Thr) results in conformational changes in gp120 that confer neutralization resistance to conformationally sensitive neutralizing MAbs – neutralization efficiency of 2F5 is not affected [Klasse et al.(1993a)]					
	• 2F5: Broadly reactive neutralizing activity, ELDKWA is relatively conserved – neutralized 2 primary isolates [Purtscher94]					
	• 2F5: Failed to show synergy with anti-CD4 binding site neutralizing antibodies [Laal et al.(1994)]					
	• 2F5: MAb generated by electrofusion of PBLs from HIV-1 positive volunteers with CB-F7 cells [Buchacher94]					
	• 2F5: Included in a multi-lab study for antibody characterization binding and neutralization assay comparison [D'Souza94]					
	• 2F5: Called IAM-41-2F5 – neutralized lab and primary isolates – t <sub>1/2</sub> dissociation 122 min for the peptide, and 156 min for gp41 – core D(K/R)W – Ab resistant isolate had the sequence KLDNWA [Conley94a]					
	• 2F5: gp41 mutation (582 A/T) that reduces neutralization of anti-CD4 binding site MAbs doesn't alter 2F5's ability to neutralize [Thali94]					
	• 2F5: 2F5 epitope ELDKWA inserted into an immunogenic loop in influenza virus hemagglutinin can elicit IIIB, MN and RF neutralizing sera in immunized mice [Muster94]					
	• 2F5: Cross-clade primary virus neutralizing activity – LDKW defined as the core epitope [Trkola95a]					
	• 2F5: Called IAM 41-2F5 – exposed in the presence of gp120 on the cell surface, while most of gp41 is masked – binds proximal to transmembrane region [Sattentau95]					
	• 2F5: Review: binds to the only generally accepted strong neutralizing epitope outside of gp120, one of only 3 MAbs with strong broad activity against primary viruses, the others are 2G12 and IgG1b12 – unique member of epitope cluster [Moore & Ho(1995)] and John Moore, per comm 1996					
	• 2F5: MAb binding decreases the accessibility or conformation of the gp41 fusion domain and of gp120 domains, including the binding site for the CD4 cell receptor [Neurath95]					
	• 2F5: Broad cross-clade neutralization of primary isolates – additive neutralization in combination with anti-CD4BS MAb IgG1b12 (Called BM12) [Kessler95]					
	• 2F5: Review – one of three MAbs (IgG1b12, 2G12, and 2F5) generally accepted as having significant potency against primary isolates [Poignard et al.(1996b)]					
	• 2F5: Review: only four epitopes have been described which can stimulate a useful neutralizing response to a broad spectrum of primary isolates, represented by the binding sites of MAbs: 447-52-D, 2G12, Fab b12, and 2F5 [Sattentau(1996)]					
	• 2F5: UK Medical Research Council AIDS reagent: ARP3063					
572 polyclonal	gp41(662-667 BH10)	gp41(152-157)	ELDKWA	L	chimeric influenza virus/ELDKWA	murine(IgG,IgA)
	<b>References:</b> [Muster94, Muster95]					
	<b>NOTES:</b>					
	• polyclonal: Sustained ELDKWA specific IgA response in mucosa of immunized mice [Muster95]					
573 B30	gp41(720-734 BH10)	gp41(210-224)	HLPIPRGPDRPEGIE	?	mis-folded LAI rgp160	murine(IgG <sub>1</sub> )
	<b>Donor:</b> Gearoge Lewis					
	<b>References:</b> [Abacioglu et al.(1994)]					
	<b>NOTES:</b>					
	• B30: Epitope boundaries mapped by peptide scanning [Abacioglu et al.(1994)]					

## HIV Monoclonal Antibodies

MAb ID	Location	WEAU	Sequence	Neutralizing	Immunogen	Species(Isotype)
574 B31	gp41(727-734 BH10)	gp41(217-224)	PDRPEGIE	?	mis-folded LAI rgp160	murine(IgG <sub>1</sub> )
<b>References:</b> [Abacioglu et al.(1994)]						
<b>NOTES:</b>						
• B31: Epitope boundaries mapped by peptide scanning [Abacioglu et al.(1994)]						
575 B33	gp41(727-734 BH10)	gp41(217-224)	PDRPEGIE	N	Baculovirus-expressed mis-folded rgp160 IIIB:NL43, MicroGenSys	murine(IgG <sub>1</sub> )
<b>References:</b> [Abacioglu et al.(1994), Bristow et al.(1994)]						
<b>NOTES:</b>						
• B33: There are two MAbs in the literature named B33. See also gp120, LAI 123-142 [Bristow et al.(1994)]						
• B33: Epitope boundaries mapped by peptide scanning IgG1 [Abacioglu et al.(1994)]						
576 C8	gp41(727-732 BH10)	gp41(217-222)	PDRPEG	?	mis-folded LAI rgp160	murine(IgG <sub>1</sub> )
<b>References:</b> [Abacioglu et al.(1994)]						
<b>NOTES:</b>						
• C8: Epitope boundaries mapped by peptide scanning [Abacioglu et al.(1994)]						
577 88-158/02	gp41(732-752 IIIB)	gp41(222-237)	GIEEEGGERDRDRSI-R	?	rgp41 IIIB	murine(IgG <sub>2b</sub> )
<b>References:</b> [Niedrig92a]						
<b>NOTES:</b>						
• 88-158/02: Mild inhibition of <i>in vitro</i> activity at high MAb concentrations – profound enhancing activity at low concentrations – significant reactivity to virion – domain non-immunogenic in humans [Niedrig92a]						
578 88-158/022	gp41(732-752 IIIB)	gp41(222-237)	GIEEEGGERDRDRSI-R	?	rgp41 IIIB	murine(IgG <sub>2b</sub> )
<b>References:</b> [Niedrig92a]						
<b>NOTES:</b>						
• 88-158/022: Mild inhibition of <i>in vitro</i> activity at high MAb concentrations – profound enhancing activity at low concentrations – significant reactivity to virion – domain non-immunogenic in humans [Niedrig92a]						
579 88-158/079	gp41(732-752 IIIB)	gp41(222-237)	GIEEEGGERDRDRSI-R	?	rgp41 IIIB	murine(IgG <sub>1</sub> )
<b>References:</b> [Niedrig92a]						
<b>NOTES:</b>						
• 88-158/079: Mild inhibition of HIV <i>in vitro</i> at high MAb concentrations – profound enhancing activity at low concentrations – weak binding to virion – domain non-immunogenic in humans [Niedrig92a]						
580 B8	gp41(733-741 BH10)	gp41(223-231)	IEEEGGERD	?	mis-folded LAI rgp160	murine(IgG <sub>1</sub> )
<b>References:</b> [Abacioglu et al.(1994)]						
<b>NOTES:</b>						
• B8: Epitope boundaries mapped by peptide scanning [Abacioglu et al.(1994)]						

## HIV Monoclonal Antibodies

MAb ID	Location	WEAU	Sequence	Neutralizing	Immunogen	Species(Isotype)
581 LA9 (121-134)	gp41(735-752 IIIB)	gp41(218-235)	DRPEGIEEEGGERDR- DRS	N	?	murine(IgM)
<b>References:</b> [Evans89]						
582 ED6	gp41(735-752 IIIB)	gp41(218-235)	DRPEGIEEEGGERDR- DRS	N	?	murine(IgM)
<b>References:</b> [Evans89]						
583 1575	gp41(735-752 IIIB)	gp41(218-235)	DRPEGIEEEGGERDR- DRS	N	Poliovirus/gp41 peptide chimera	murine
<b>References:</b> [Evans89, Vella93]						
<b>NOTES:</b>						
• 1575: Neutralizing activity, less broad than 1577 [Evans89]						
• 1575: Core epitope: IEEE – neutralized IIIB, but not RF or MN [Vella93]						
584 1576	gp41(735-752 IIIB)	gp41(218-235)	DRPEGIEEEGGERDR- DRS	N	Poliovirus/gp41 peptide chimera	murine
<b>References:</b> [Vella93]						
<b>NOTES:</b>						
• 1576: Not neutralizing [Vella93]						
585 1577	gp41(735-752 IIIB)	gp41(218-235)	DRPEGIEEEGGERDR- DRS	N	Poliovirus/gp41 peptide chimera	murine
<b>Donor:</b> Morag Ferguson (NIBSC)						
<b>References:</b> [Evans89, D'Souza91, Vella93]						
<b>NOTES:</b>						
• 1577: Raised against IIIB peptide chimera – neutralized African and American HIV-1 lab strains [Evans89]						
• 1577: Non-neutralizing in this multi-lab study [D'Souza91]						
• 1577: Core epitope: ERDRD – could neutralize HIV IIIB and HIV RF [Vella93]						
• 1577: UK Medical Research Council AIDS reagent: ARP317						
• 1577: NIH AIDS Research and Reference Reagent Program: 1172						
586 1578	gp41(735-752 IIIB)	gp41(218-235)	DRPEGIEEEGGERDR- DRS	N	Poliovirus/gp41 peptide chimera	murine
<b>References:</b> [Evans89, Vella93]						
<b>NOTES:</b>						
• 1578: No neutralizing activity – epitope may be formed by regions from both poliovirus and HIV [Evans89]						
• 1578: Core epitope: IEEE – in this study, neutralized IIIB, but not RF or MN [Vella93]						
587 1899	gp41(735-752 IIIB)	gp41(218-235)	DRPEGIEEEGGERDR- DRS	N	Poliovirus/gp41 peptide chimera	murine
<b>References:</b> [Vella93]						
<b>NOTES:</b>						
• 1899: Could neutralize HIV IIIB and HIV RF [Vella93]						

## HIV Monoclonal Antibodies

MAb ID	Location	WEAU	Sequence	Neutralizing	Immunogen	Species(Isotype)
588 1579	gp41(735-752 IIIB)	gp41(218-235)	DRPEGIEEGGERDR-DRS	N	Poliovirus/gp41 peptide chimera	murine
<b>References:</b> [Vella93]						
<b>NOTES:</b>						
• 1579: Core epitope: IEEE – neutralized IIIB, but not RF or MN [Vella93]						
589 1583	gp41(735-752 IIIB)	gp41(218-235)	DRPEGIEEGGERDR-DRS	N	Poliovirus/gp41 peptide chimera	murine
<b>References:</b> [Evans89, Vella93, Sattentau95]						
<b>NOTES:</b>						
• 1583: Neutralizing activity, less broad than 1577 [Evans89]						
• 1583: Core epitope: ERDRD – Could neutralize HIV IIIB but not HIV RF [Vella93]						
• 1583: Cytoplasmic domain, epitope not exposed at the surface of HIV-1 infected cells [Sattentau95]						
590 1907	gp41(735-752 IIIB)	gp41(218-235)	DRPEGIEEGGERDR-DRS	N	Poliovirus/gp41 peptide chimera	murine
<b>References:</b> [Vella93]						
<b>NOTES:</b>						
• 1907: Could not neutralize HIV IIIB, RF or MN [Vella93]						
591 1908	gp41(735-752 IIIB)	gp41(218-235)	DRPEGIEEGGERDR-DRS	N	Poliovirus/gp41 peptide chimera	murine
<b>References:</b> [Evans89, Vella93, Sattentau95]						
<b>NOTES:</b>						
• 1908: Neutralized IIIB, but not RF or MN [Vella93]						
• 1908: Cytoplasmic domain, epitope not exposed at the surface of HIV-1 infected cells [Sattentau95]						
592 1909	gp41(735-752 IIIB)	gp41(218-235)	DRPEGIEEGGERDR-DRS	N	Poliovirus/gp41 peptide chimera	murine
<b>References:</b> [Vella93]						
<b>NOTES:</b>						
• 1909: Neutralized HIV IIIB but not HIV RF [Vella93]						
593 41-1	gp41(735-752 IIIB)	gp41(218-235)	DRPEGIEEGGERDR-DRS	N	Peptide 735-752 IIIB	murine(IgM <sub>κ</sub> )
<b>References:</b> [Dagleish et al.(1988)]						
<b>NOTES:</b>						
• 41-1: Neutralizes HIV-1 but not HIV-2 strains [Dagleish et al.(1988)]						
• 41-1: This antibody seems to have been named the same as a different MAb to gp41(584-609) [Mani et al.(1994)]						
594 41-2	gp41(735-752 IIIB)	gp41(218-235)	DRPEGIEEGGERDR-DRS	N	Peptide 735-752 IIIB	murine(IgM <sub>κ</sub> )
<b>References:</b> [Dagleish et al.(1988)]						
<b>NOTES:</b>						
• 41-2: Neutralizes HIV-1 but not HIV-2 strains [Dagleish et al.(1988)]						

## HIV Monoclonal Antibodies

MAb ID	Location	WEAU	Sequence	Neutralizing	Immunogen	Species(Isotype)
595 41-3	gp41(735-752 IIIB)	gp41(218-235)	DRPEGIEEGGERDR- DRS	N	Peptide 735-752 IIIB	murine(IgM <sub>κ</sub> )
			<b>References:</b> [Dalgleish et al.(1988)]			
			<b>NOTES:</b>			
			• 41-3: Neutralizes HIV-1 but not HIV-2 strains [Dalgleish et al.(1988)]			
596 4E10	gp41(824-830 BH10)	gp41(313-319)	AEGTDRV	N	HIV-1 infection	human(IgG <sub>3κ</sub> )
			<b>References:</b> [Buchacher92, Buchacher94, D'Souza94]			
			<b>NOTES:</b>			
			• 4E10: MAbs generated by electrofusion of PBLs from HIV-1+ volunteers with CB-F7 cells – also binds to MHC class II proteins – anti-class II Abs are only found in HIV-1 positive people [Buchacher94]			
			• 4E10: Included in a multi-lab study for antibody characterization, binding and neutralization assay comparison [D'Souza94]			
597 DZ	gp41(827-860 BRU)	gp41(312-345)	VAEGTDRVIEVVQGA- CRAIRHIPRRIRQGL- ERIL ?	L	r vaccinia gp160 IIIB	human(IgG <sub>1λ</sub> )
			<b>References:</b> [Boyer et al.(1991)]			
			<b>NOTES:</b>			
			• DZ: Weakly neutralizing IIIB – binds to peptides 827-843 and 846-860 of BRU – reacted specifically with IIIB and RF [Boyer et al.(1991)]			
598 Chessie 8	gp41(cytoplasmic domain)	gp41		?		murine(IgG)
			<b>Donor:</b> G. Lewis			
			<b>References:</b> [Lewis et al.(1991), Poumbourios et al.(1995)]			
599 K14	gp41(dis)	gp41	DISCONTINUOUS	N		human(IgG <sub>1</sub> )
			<b>References:</b> [Teeuwsen et al.(1990), Schutten et al.(1995)]			
			<b>NOTES:</b>			
			• K14: Did not bind to peptides spanning gp41, but it does not react with env deletion mutant 643-692 – does not react with HIV-2 – competition experiments showed this was an immunodominant conserved epitope in HIV-1 positive sera from Europe and Africa [Teeuwsen et al.(1990)]			
600 126-50	gp41(dis HXB2)	gp41(dis)	DISCONTINUOUS	N	HIV-1 infection	human(IgG <sub>2κ</sub> )
			<b>References:</b> [Robinson Jr. et al.(1990a), Tyler90, Robinson Jr. et al.(1991), Xu91]			
			<b>NOTES:</b>			
			• 126-50: No enhancing activity for HIV-1 IIIB [Robinson Jr. et al.(1990a)]			
			• 126-50: Serves as target for antibody-dependent cellular cytotoxicity ADCC [Tyler90]			
			• 126-50: No enhancing or neutralizing activity [Robinson Jr. et al.(1991)]			
			• 126-50: Specific for a conformational epitope [Xu91]			
601 T4	gp41(dis IIIB)	gp41(dis)	DISCONTINUOUS	L	vaccinia expressed oligomeric gp140 IIIB	murine(IgG)
			<b>References:</b> [Broder et al.(1994)]			
			<b>NOTES:</b>			
			• T4: one of five MAbs (T4, T6, T9, T10 and T35) in a competition group that bind to a conformation-dependent epitope in gp41 and is oligomer specific – neutralizes IIIB and SF2 [Broder et al.(1994)]			

## HIV Monoclonal Antibodies

MAb ID	Location	WEAU	Sequence	Neutralizing	Immunogen	Species(Isotype)
602	D12	gp41(dis IIIB)	gp41(dis) DISCONTINUOUS	L	vaccinia expressed oligomeric gp140 IIIB	murine(IgG)
<b>References:</b> [Broder et al.(1994)]						
<b>NOTES:</b>						
					• D12: one of 18 MAbs ( <i>e. g.</i> D4 and D40) that bind to a conformation-dependent epitopes in gp41 that bind preferentially, but not exclusively, to oligomers – neutralizes IIIB and SF2 [Broder et al.(1994)]	
603	126-6	gp41(dis HXB2)	gp41(dis) DISCONTINUOUS	N	HIV-1 infection	human(IgG <sub>2κ</sub> )
<b>References:</b> [Robinson Jr. et al.(1990a), Robinson Jr. et al.(1991), Xu91, Eddleston et al.(1993), Binley et al.(1996)]						
<b>NOTES:</b>						
					• 126-6: No enhancing activity for HIV-1 IIIB [Robinson Jr. et al.(1990a)]	
					• 126-6: No enhancing or neutralizing activity [Robinson Jr. et al.(1991)]	
					• 126-6: Specific for a conformational epitope [Xu91]	
					• 126-6: Called SZ-126.6 [Eddleston et al.(1993)]	
					• 126-6: Discontinuous epitope recognizing residues between 649-668 – designated cluster II – Fabs D5, D11, G1, T3, M12, M15, S6, S8, S9, S10 block binding [Binley et al.(1996)]	
					• 126-6: NIH AIDS Research and Reference Reagent Program: 1243	
604	D50	gp41(dis HXB2)	gp41(dis) DISCONTINUOUS	?	?	
<b>NOTES:</b>						
					• D50: Discontinuous epitope recognizing residues between 649-668 – designated cluster II – Fabs D5, D11, G1, T3, M12, M15, S6, S8, S9, S10 block binding [Binley et al.(1996)]	
605	Md-1	gp41(dis)	gp41(dis) DISCONTINUOUS	N	?	human(IgG <sub>1λ</sub> )
<b>Donor:</b> R. A. Myers State of Maryland Dept. of Health						
<b>References:</b> [Myers et al.(1993), Binley et al.(1996)]						
<b>NOTES:</b>						
					• Md-1: Called MD-1 – discontinuous epitope that binds in the N-terminal region – reacts exclusively with oligomer [Myers et al.(1993)]	
					• Md-1: Discontinuous epitope recognizing residues between 563-672, does not recognize cluster I disulfied bridge region – reacts almost exclusively with trimers and tetramers on WB – designated cluster II – Fabs D5, D11, G1, T3, M12, M15, S6, S8, S9, S10 block binding [Binley et al.(1996)]	
606	Fab D5	gp41(dis LAI)	gp41(dis) DISCONTINUOUS	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
<b>References:</b> [Binley et al.(1996)]						
<b>NOTES:</b>						
					• Fab D5: Binds to Cluster II region – competes with MAbs 126-6, Md-1 and D50 – conformation sensitive – variable regions sequenced [Binley et al.(1996)]	
607	Fab D11	gp41(dis LAI)	gp41(dis) DISCONTINUOUS	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
<b>References:</b> [Binley et al.(1996)]						
<b>NOTES:</b>						
					• Fab D11: Binds to Cluster II region – competes with MAbs 126-6, Md-1 and D50 – conformation sensitive – variable regions sequenced [Binley et al.(1996)]	

## HIV Monoclonal Antibodies

<b>MAb ID</b>	<b>Location</b>	<b>WEAU</b>	<b>Sequence</b>	<b>Neutralizing</b>	<b>Immunogen</b>	<b>Species(Isotype)</b>	
608	Fab G1	gp41(dis LAI)	gp41(dis)	DISCONTINUOUS	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
							<b>References:</b> [Binley et al.(1996)]
							<b>NOTES:</b>
							• Fab G1: Binds to Cluster II region – competes with MAbs 126-6, Md-1 and D50 – conformation sensitive – variable regions sequenced [Binley et al.(1996)]
609	Fab T3	gp41(dis LAI)	gp41(dis)	DISCONTINUOUS	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
							<b>References:</b> [Binley et al.(1996)]
							<b>NOTES:</b>
							• Fab T3: Binds to Cluster II region – competes with MAbs 126-6, Md-1 and D50 – conformation sensitive – variable regions sequenced [Binley et al.(1996)]
610	Fab M10	gp41(dis LAI)	gp41(dis)	DISCONTINUOUS	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
							<b>References:</b> [Binley et al.(1996)]
							<b>NOTES:</b>
							• Fab M10: Binds to Cluster II region – competes with MAbs 126-6, Md-1 and D50 – conformation sensitive – variable regions sequenced [Binley et al.(1996)]
611	Fab M12	gp41(dis LAI)	gp41(dis)	DISCONTINUOUS	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
							<b>References:</b> [Binley et al.(1996)]
							<b>NOTES:</b>
							• Fab M12: Binds to Cluster II region – competes with MAbs 126-6, Md-1 and D50 – conformation sensitive – variable regions sequenced [Binley et al.(1996)]
612	Fab M15	gp41(dis LAI)	gp41(dis)	DISCONTINUOUS	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
							<b>References:</b> [Binley et al.(1996)]
							<b>NOTES:</b>
							• Fab M15: Binds to Cluster II region – competes with MAbs 126-6, Md-1 and D50 – conformation sensitive – variable regions sequenced [Binley et al.(1996)]
613	Fab S6	gp41(dis LAI)	gp41(dis)	DISCONTINUOUS	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
							<b>References:</b> [Binley et al.(1996)]
							<b>NOTES:</b>
							• Fab S6: Binds to Cluster II region – competes with MAbs 126-6, Md-1 and D50 – conformation sensitive – variable regions sequenced [Binley et al.(1996)]
614	Fab S8	gp41(dis LAI)	gp41(dis)	DISCONTINUOUS	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
							<b>References:</b> [Binley et al.(1996)]
							<b>NOTES:</b>
							• Fab S8: Binds to Cluster II region – competes with MAbs 126-6, Md-1 and D50 – conformation sensitive – variable regions sequenced [Binley et al.(1996)]
615	Fab S9	gp41(dis LAI)	gp41(dis)	DISCONTINUOUS	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
							<b>References:</b> [Binley et al.(1996)]
							<b>NOTES:</b>
							• Fab S9: Binds to Cluster II region – competes with MAbs 126-6, Md-1 and D50 – conformation sensitive – variable regions sequenced [Binley et al.(1996)]

## HIV Monoclonal Antibodies

MAb ID	Location	WEAU	Sequence	Neutralizing	Immunogen	Species(Isotype)
616	Fab S10 gp41(dis LAI)	gp41(dis)	DISCONTINUOUS	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
	<b>References:</b> [Binley et al.(1996)]					
	<b>NOTES:</b>					
	• Fab S10: Binds to Cluster II region – competes with MAbs 126-6, Md-1 and D50 – conformation sensitive – variable regions sequenced [Binley et al.(1996)]					
617	Fab L2 gp41(dis LAI)	gp41(dis)	DISCONTINUOUS	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
	<b>References:</b> [Binley et al.(1996)]					
	<b>NOTES:</b>					
	• Fab L2: Binds to Cluster III region – competes with MAb Md-1, but not MAbs 126-6 and D50 – conformation sensitive – variable regions sequenced [Binley et al.(1996)]					
618	Fab L11 gp41(dis LAI)	gp41(dis)	DISCONTINUOUS	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
	<b>References:</b> [Binley et al.(1996)]					
	<b>NOTES:</b>					
	• Fab L11: Binds to Cluster III region – competes with MAb Md-1, but not MAbs 126-6 and D50 – conformation sensitive – variable regions sequenced [Binley et al.(1996)]					
619	Fab L1 gp41(dis LAI)	gp41(dis)	DISCONTINUOUS	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
	<b>References:</b> [Binley et al.(1996)]					
	<b>NOTES:</b>					
	• Fab L1: Binds to Cluster III region – competes with MAb Md-1, but not MAbs 126-6 and D50 – conformation sensitive – variable regions sequenced [Binley et al.(1996)]					
620	Fab G5 gp41(dis LAI)	gp41(dis)	DISCONTINUOUS	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
	<b>References:</b> [Binley et al.(1996)]					
	<b>NOTES:</b>					
	• Fab G5: Binds to Cluster III region – competes with MAb Md-1, but not MAbs 126-6 and D50 – conformation sensitive – variable regions sequenced [Binley et al.(1996)]					
621	Fab G15 gp41(dis LAI)	gp41(dis)	DISCONTINUOUS	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
	<b>References:</b> [Binley et al.(1996)]					
	<b>NOTES:</b>					
	• Fab G15: Binds to Cluster III region – competes with MAb Md-1, but not MAbs 126-6 and D50 – conformation sensitive – variable regions sequenced [Binley et al.(1996)]					
622	Fab A9 gp41(dis LAI)	gp41(dis)	DISCONTINUOUS	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
	<b>References:</b> [Binley et al.(1996)]					
	<b>NOTES:</b>					
	• Fab A9: Binds to Cluster III region – competes with MAb Md-1, but not MAbs 126-6 and D50 – conformation sensitive – variable regions sequenced [Binley et al.(1996)]					
623	Fab A12 gp41(dis LAI)	gp41(dis)	DISCONTINUOUS	N	HIV-1 infection	human(IgG <sub>1κ</sub> )
	<b>References:</b> [Binley et al.(1996)]					
	<b>NOTES:</b>					
	• Fab A12: Uncharacterized epitope – variable regions sequenced [Binley et al.(1996)]					

## HIV Monoclonal Antibodies

MAb ID	Location	WEAU	Sequence	Neutralizing	Immunogen	Species(Isotype)
624	Fab L9      gp41(dis LAI)	gp41(dis)	DISCONTINUOUS	N	HIV-1 infection	human(IgG <sub>1</sub> <sub>κ</sub> )
	<b>References:</b> [Binley et al.(1996)]					
	<b>NOTES:</b>					
	• Fab L9: Uncharacterized epitope – variable regions sequenced [Binley et al.(1996)]					
625	Fab A2      gp41(dis LAI)	gp41(dis)	DISCONTINUOUS	N	HIV-1 infection	human(IgG <sub>1</sub> <sub>λ</sub> )
	<b>References:</b> [Binley et al.(1996)]					
	<b>NOTES:</b>					
	• Fab A2: Uncharacterized epitope – variable regions sequenced [Binley et al.(1996)]					
626	H2      gp41(dis)	gp41(dis)	DISCONTINUOUS	?	?	human(IgM <sub>κ</sub> )
	<b>Donor:</b> BioInvent, Lund, Sweden, commercial					
	<b>References:</b> [Muller et al.(1991)]					
	<b>NOTES:</b>					
	• H2: Anti-idiotypic MAbs (10B3 and 2All) against H2 were generated by immunization of BALB/c mice with H2 – they also react with seropositive sera [Muller et al.(1991)]					
627	MO43      gp41(dis)	gp41(dis)	DISCONTINUOUS	N	<i>in vitro</i> r Env penv9	human(IgM)
	<b>References:</b> [Ohlin89]					
	<b>NOTES:</b>					
	• MO43: Discontinuous epitope involving hydrophobic regions 632-646, 677-681 and 687-691, proximal to and spanning the transmembrane region – this specificity is unusual in HIV-1 positive sera [Ohlin89]					
628	MO30      gp41(dis)	gp41(dis)	DISCONTINUOUS	N	<i>in vitro</i> r Env penv9	human(IgM)
	<b>References:</b> [Ohlin89]					
	<b>NOTES:</b>					
	• MO30: Discontinuous epitope involving hydrophobic regions 632-646, 677-681 and 687-691, proximal to and spanning the transmembrane region – this specificity is unusual in HIV-1 positive sera [Ohlin89]					
629	MO28      gp41(dis)	gp41(dis)	DISCONTINUOUS	N	<i>in vitro</i> r Env penv9	human(IgM)
	<b>References:</b> [Ohlin89]					
	<b>NOTES:</b>					
	• MO28: Discontinuous epitope involving hydrophobic regions 632-646, 677-681 and 687-691, proximal to and spanning the transmembrane region – this specificity is unusual in HIV-1 positive sera [Ohlin89]					
630	N2-4      gp41	gp41	?	N	HIV-1 infection	human(IgG <sub>1</sub> <sub>κ</sub> )
	<b>Donor:</b> Evan Hersh and Yoh-Ichi Matsumoto					
	<b>References:</b> [Robinson Jr. et al.(1990a)]					
	<b>NOTES:</b>					
	• N2-4: No enhancing activity for HIV-1 IIIB [Robinson Jr. et al.(1990a)]					
	• N2-4: NIH AIDS Research and Reference Reagent Program: 528					
631	M25      gp41	gp41	?	?	purified HTLV-III	murine(IgG <sub>κ</sub> )
	<b>References:</b> [Veronese85, Watkins et al.(1996)]					
	<b>NOTES:</b>					
	• M25: heavy and light chains cloned and sequenced – binding requires heavy and light chain in combination, in contrast to M77 [Watkins et al.(1996)]					

## HIV Monoclonal Antibodies

MAb ID	Location	WEAU	Sequence	Neutralizing	Immunogen	Species(Isotype)
632	10E9	gp41	gp41	?	?	HIV-1 infection murine(IgG <sub>1</sub> )
					<b>References:</b> [Papsidero et al.(1988)]	
					<b>NOTES:</b>	
					• 10E9: 100/100 HIV+ human sera could inhibit 10E9 binding [Papsidero et al.(1988)]	
633	31A1	gp41	gp41	?	N	<i>in vitro</i> immunization, denatured HIV-1 human(IgM <sub>κ/λ</sub> )
					<b>References:</b> [Pollock et al.(1989)]	
					<b>NOTES:</b>	
					• 31A1: Reacts with both p24 and gp41 [Pollock et al.(1989)]	
634	39A64	gp41	gp41	?	N	<i>in vitro</i> immunization, denatured HIV-1 human(IgM <sub>κ/λ</sub> )
					<b>References:</b> [Pollock et al.(1989)]	
					<b>NOTES:</b>	
					• 39A64: Reacts with both p24 and gp41 [Pollock et al.(1989)]	
635	39B86	gp41	gp41	?	N	<i>in vitro</i> immunization, denatured HIV-1 human(IgM <sub>κ/λ</sub> )
					<b>References:</b> [Pollock et al.(1989)]	
					<b>NOTES:</b>	
					• 39B86: Reacts with both p24 and gp41 [Pollock et al.(1989)]	
636	9303	gp41	gp41		N	murine()
					<b>Donor:</b> Du Pont	
					<b>References:</b> [McDougal96]	